



Hand protection measures for countering Ebola virus disease

The Ebola virus disease (EVD), formerly known as Ebola haemorrhagic fever, is transmitted through close contact with the blood, secretions and organs. The Centers for Disease Control and Prevention (CDC) has emphasized the level of seriousness associated with this disease by highlighting a) the High rate of morbidity and mortality among infected patients b) the risk of human-to-human transmission and c) the lack of FDA-approved vaccine and therapeutics.

Given this background and the fact that hand protection is likely to be at the forefront of any protection measures, SHIELD Scientific advocates double-gloving when exposed to high risk situations such as large amounts of blood, body fluids, vomit or faeces. Such a gloving system could be as follows

SHIELDskin™ ORANGE NITRILE™ 300 (30cm) worn as the under-glove

ecoSHIELD™ Eco Nitrile PF 250 (25cm) worn as the outer-glove

Both gloves have an AQL 0,65/Level 3 according to EN374-2:2003 and as such offer the highest level of resistance to micro-organisms. In addition both gloves have undergone viral penetration resistance based on testing with Phi-X 174 bacteriophage (ISO16604: Procedure B & ASTM F1671). Double-gloving will substantially reduce the risk of penetration of liquid-borne micro-organisms through pinholes in the gloves. Similarly the practice of wearing a brightly coloured under-glove will alert users to any breakages in the outer-glove, thereby providing additional security to the glove-wearer.

References:

“Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in U.S. Hospitals” dated 30th July 2014 - Centers for Disease Control and Prevention (CDC) – accessed via: <http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html>

“Ebola virus disease” Key facts – World Health Organization - accessed via: <http://www.who.int/mediacentre/factsheets/fs103/en>

EN374-2:2003 “Protective gloves against chemicals and micro-organisms – Part 2: Determination of resistance to penetration”

ASTM F1671 Standard Test Method for Resistance of Materials used in Protective Clothing to Penetration by Blood-borne Pathogens using Phi-X174 Bacteriophage Penetration as a Test System

ISO 16604 “Clothing for protection against contact with blood and body fluids — Determination of resistance of protective clothing materials to penetration by blood-borne pathogens — Test method using Phi-X 174 bacteriophage”